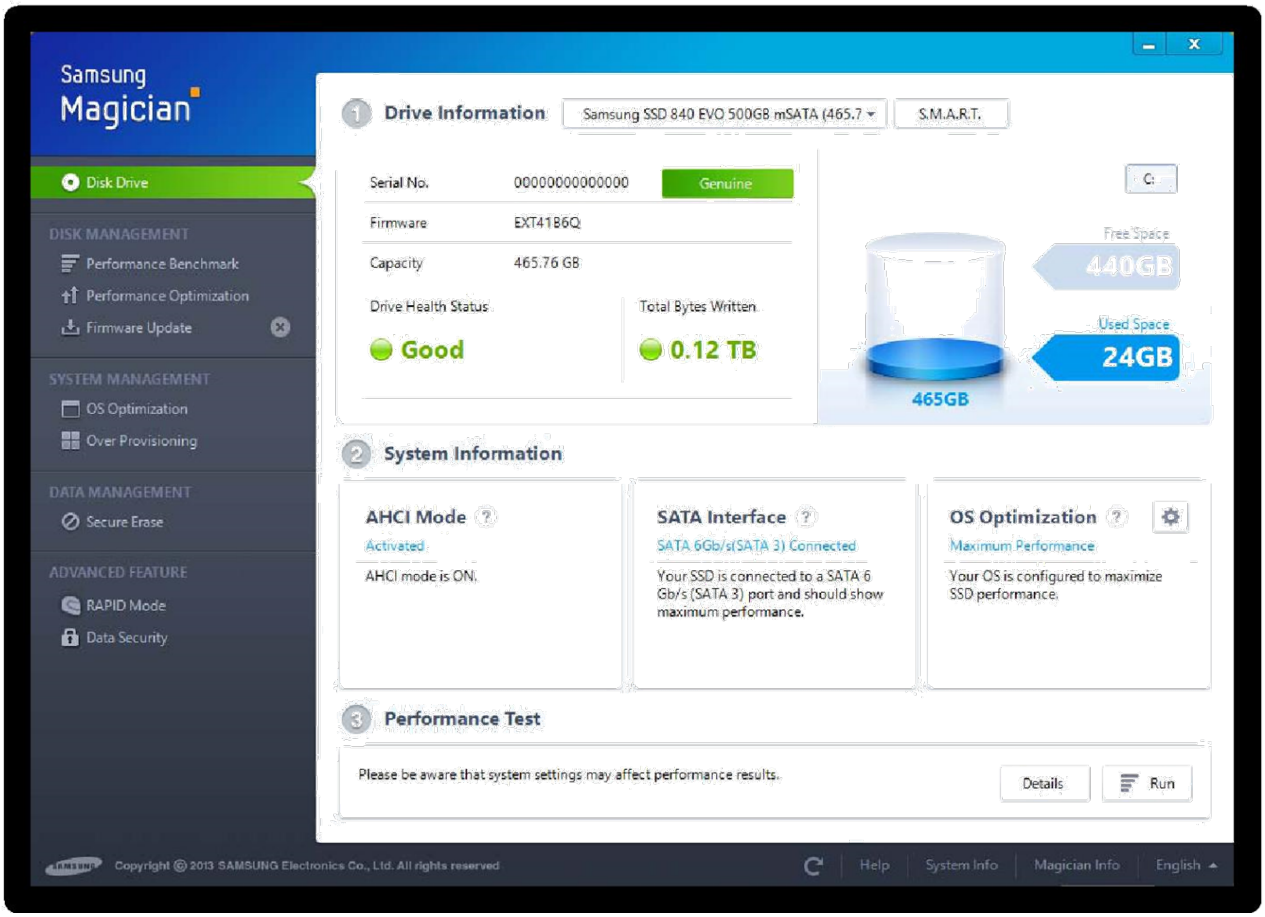

Samsung Magician v.4.4

Introduction and Installation Guide

2014.05 (Rev 1.3)

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Introduction

The Samsung Magician software is designed to help users easily manage the health and performance of their Samsung SSD. In addition to providing vital SSD health status information, Magician will assist users in updating firmware, measuring performance, and optimizing the configuration of a Windows operating system installation.

Samsung Magician software is developed and distributed exclusively for owners of Samsung Solid Sate Drives (SSDs).

New in Version 4.4

Magician 4.4 features a number of improvements over version 4.3:

- New model support : 850 PRO
- RAPID v1.1
- PCIe SATA Card, Marvell chipset support
- Remove the UAC(User Account Control) alarm
- Retain the OS Optimization mode when updating the Magician
- Improve the operation speed of Performance Optimization

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System Requirements

Component	Requirement
Operating System	Windows XP SP2 (32bit) Windows Vista (32/64bit) Windows 7 (32/64bit) Windows 8 & 8.1(32/64bit)
Disk Capacity	minimum 95MB available for installation
Supported Partition Types	MBR, GPT
Supported Languages	English, Korean, Spanish, Deutsch, Japanese, Chinese(Simplified), French, Italian, Portuguese, Russian
SSD	The following Samsung SSDs are supported*: Samsung SSD 850 PRO Samsung SSD 840 EVO (2.5”, mSATA) Samsung SSD 840 PRO Samsung SSD 840 Series Samsung SSD 830 Series Samsung SSD 470 Series

*Some features may not be supported for all models.

RAPID mode Requirements

Component	Requirement
Operating System	Windows 7 (32/64bit), Windows 8 & 8.1 (32/64bit)
SSD	Samsung SSD 850 PRO, 840 PRO, 840 EVO, 840 EVO mSATA
Processor	1GHz or faster
System memory(DRAM)	2GB RAM or more
Free Disk Space	Minimum 50MB
File System	NTFS

*This is the minimum system requirements of RAPID mode. For desirable performance, 4GB or higher system memory is recommended.

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Driver Support

Chipset	Driver	Supported
Intel	Microsoft	Yes
	Intel	Yes
AMD	Microsoft	Yes
	AMD	Yes
	NVIDIA	Yes

Precautions

1) The SSD should not be removed or disconnected while SSD Optimization or Benchmarking are in progress. Doing so could result in data corruption.
2) All parallel operations should be terminated before executing the SSD Optimization or Benchmarking features.
3) Data corruption may result if the user terminates the Magician application abnormally while SSD Optimization, Benchmarking, FW Update, or Secure Erase features are in progress.
4) Using the Performance Optimization feature in Magician does not guarantee performance improvement. Performance Optimization can only improve performance issues related to capacity usage and fragmentation.
5) There is always the risk of data loss when updating SSD firmware. It is imperative that the user backs up any important data before performing a firmware update either via Magician or via the Magician DOS Utility.
6) The SSD may be permanently damaged if it is unplugged while the firmware update process is in progress via the DOS Utility.

General Limitations

1) Magician is designed specifically for Samsung-branded SSDs. SSD-specific features like Firmware Update, Disk Health Status, Secure Erase, and Total Bytes Written are not supported for non-Samsung SSDs.
2) Magician does not work with SSDs connected via the SCSI controller interface.
3) Only MBR and GPT partition types are supported. Magician may not work with other partition types.
4) Magician will not work on SSDs that are locked with a user password.
5) The user may need to manually refresh the disk list in System Information for

Magician to accurately reflect all connected/removed disks.

6) Benchmarking results are for a Queue Depth of 32.
7) It may be necessary to manually refresh the disk list in System Information before performing benchmarking or performance optimization on a newly attached disk.
8) The Performance Optimization feature relies on the ATA PASS THROUGH feature to pass the TRIM command to the SSD. This feature may be disabled by Windows XP/2003 if your SSD is less than 137GB in size. Microsoft provides a hot fix for this issue at http://support.microsoft.com/kb/934205.
9) Secure Erase is not supported for Windows 8 and 8.1 systems.
10) Performance Optimization supports only the NTFS file system.
11) Over Provisioning may fail, even though enough free space is available, if your system suffers from cluster misalignment.
12) Benchmarking may not work with some removable storage devices.
13) If User cannot span or shrink volume size through disk management of OS administration tool, it is possible not to work dynamic over-provisioning properly.
14) When the IRST driver is enabled / Installed in system. Then enabling of Write cache buffer/flushing in SSD may fail (OS Optimization).
    * Also, when a specific or latest IRST driver (IRST 12.6.0.1033, 12.8.10.1005) is installed, the authentication function may not work correctly. In this case, rollback to the older version.
15) RAID on mode in SATA configuration is not supported by Samsung magician and DOS application.
16) PC will be shut down automatically after firmware update (Magician counts down 20 seconds before shutdown)
17) Security mode(Class 0, TCG/Opal or Encrypted Drive) must be disabled(unlocked) before removing and installing onto another PC.
18) Firmware Update may fail on Samsung brand SSDs connected to AMD Controller. Please retry using default SATA AHCI controller(Microsoft drivers)
19) Performance Benchmark may get timed-out on As media controllers if the driver does not handle multi thread operations (IOs)”
20) Always use the latest storage drivers. If user is using any custom storage driver, then Magician may not function properly
21) Magician will only retain the power option that was tuned before installing Magician. If user changes the power option after installation, Magician cannot retain that.

DOS Utility Limitations

1) The DOS Utility is not compatible with pure SCSI or SATA NVIDIA/LSI/AMD chipset drivers.
2) AHCI or ATA mode must be enabled in the BIOS during PC boot up.
3) The DOS utility may not work consistently on PCs with chipsets other than the ones listed above.
4) The DOS Utility may hang if the SSD is removed on PCs that do not support the hot plug feature (e.g. ICH5/6 chipsets).
5) The DOS Utility will not work with devices attached via SATA 6Gbps (SATA III) operating in IDE mode.

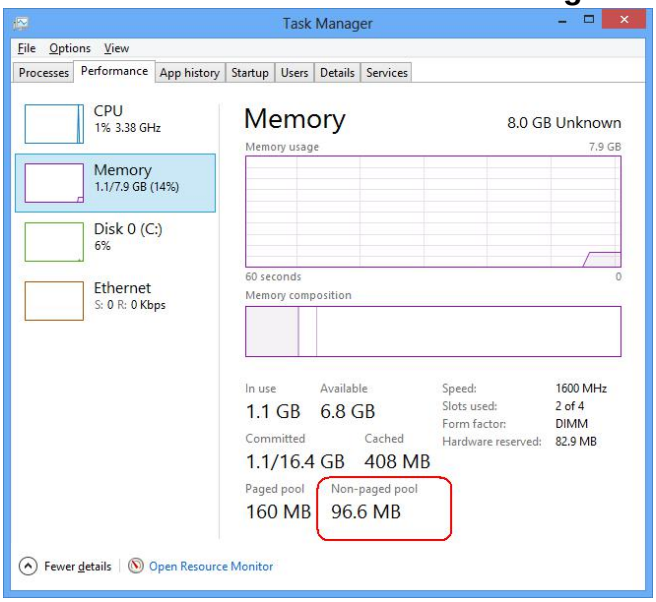
RAPID mode Limitations

1) RAPID mode accelerates only one SSD even though user has several Samsung SSDs(840 PRO, 840 EVO, and 840 EVO mSATA).
2) If there are two identical SSDs connected, RAPID mode may accelerate the incorrect SSD.
3) RAPID mode sets is not supported as an accelerated drive.
4) After uninstalling RAPID mode, if the system is restored to a prior state in which RAPID mode was installed, RAPID mode will be started in a disabled state.
5) NVIDIA Storage controller is not supported.
6) During RAPID mode Enable/Disable operation: Do not disconnect the target SSD, Do not kill the application.
7) F/W download and Secure Erase is not allowed in case of RAPID mode enabled SSD.
8) If fast startup is enabled on windows 8 and 8.1 machines, RAPID mode enable/disable requires system restart. Shutdown followed by turning-on the power will not activate RAPID mode enable/disable. By default fast startup is enabled.
9) Flush command of operating system and/or application may cause variation in performance when RAPID mode is enabled(especially when Write-Cache Buffer Flushing is On).
10) Sometimes on AMD PC with AMD and AS Media storage controllers it was found that the IOs takes a longer time to complete. In such cases if RAPID was enabled, it may get automatically disabled due to such IO errors. It may display "RAPID is in inactive state". User has to reboot the PC to enable the RAPID back.

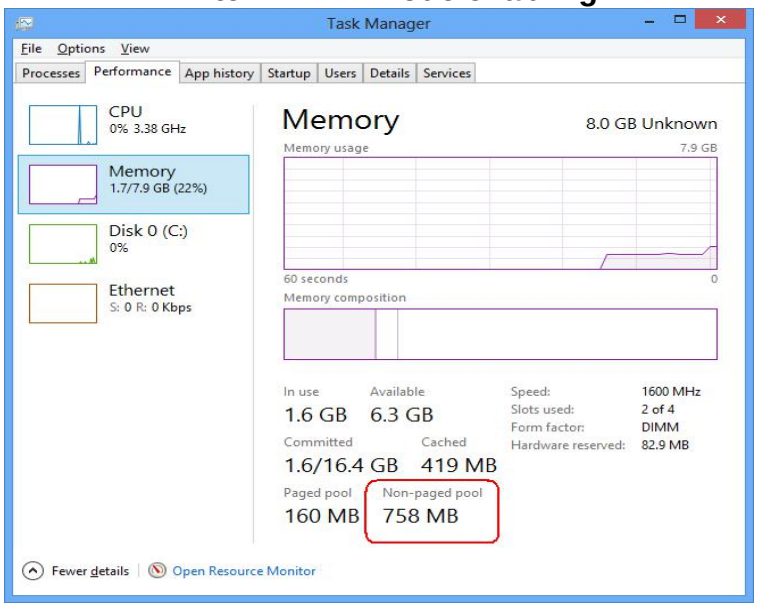
Operational Check of RAPID mode

RAPID mode starts its operation 45 seconds after OS booting. Please make sure the increased size of non-paged pool using “task manager → performance → memory tab” to ensure it is fully operational.

*** Before RAPID mode enabling**



*** After RAPID mode enabling**



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